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UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH ADMINISTRATION
BUREAU OF ENTOMOLOGY AND PLANT QUARANTINE
WASHINGTON 25, D. C.

In Cooperation with State, Federal and Other Agencies

COTTON INSECT CONDITIONS - JUNE 9

(Fourth Cotton Insect Survey Report for 1951)

Cutworms and thrips continue as the most serious pests of cotton this spring and insecticides have been used more generally for their control than in any previous year.

The boll weevil, bollworms, spider mites, aphids, the cotton fleahopper, pink bollworm and other pests are attracting attention and causing damage in limited areas.

Detailed information concerning cotton insect conditions in each of the States may be obtained from the State experiment station and extension entomologists.

No serious wide-spread infestations or outbreaks of any of the cotton pests have been reported and no serious shortages of insecticides have developed

SPRAYING EQUIPMENT

South Carolina: "The only county reporting a shortage was Lancaster. They need more hand sprayers for cotton insect control." (Ist Weekly Report, Cotton Insect Infestations in South Carolina)

INSECTICIDES

Alabama: Conrad J. Ward reported on June 9: "No dusting operations had begun in any of the 10 counties visited. The available insecticide supply is insufficient in Butler, Conecuh and Escambia counties for any large amount of dusting."

BOLL WEEVIL

North Carolina: Cotton News Letter No. 11, issued by the Extension Service on June 8, stated: "Mr. Rabb and county agents from the Charlotte-Shelby, Laurinburg-Lumberton, Fayetteville-Clinton, and Smithfield-Raleigh areas indicate a fairly uniform light infestation in the earlier fields, averaging about 1 weevil to each 100 plants. Fields, however, in the Wilson-Greenville and the Halifax-Warrenton areas showed only a very few weevils. In Northampton and Edgecombe Counties only 6 weevils were found in 18 fields."

South Carolina: The report from the Extension Service for the week ending June 1 states: "Boll weevils were reported present in Barnwell, Calhoun, Chesterfield, Clarendon, Edgefield, Fairfield, Florence, Lancaster, Laurens, Lee, Marlboro, Newberry, Orangeburg, Richland, and Williamsburg Counties. These counties also report weevils found mostly on early cotton, few found on late planted cotton. The weevil emergence from hibernation is being delayed due to the lack of sufficient moisture necessary to bring them out into the fields. A general influx of weevils can be expected once we get state-wide rains. Scattered showers in early June will cause spotted infestations throughout the State. Many counties expect to begin poison applications for weevil control during the coming week."

J. G. Watts, Edisto, wrote on June 4: "Weevils are still very scarce in the fields."

L. C. Fife and associates at Florence reported that as of June 8 no boll weevils had emerged this season in the hibernation cages whereas in similar cages at this date in previous years 576 had emerged in 1950, 442 in 1949, 7 in 1948 and 146 in 1947.

In the 1/5-acre trap plot, no boll weevils were collected during the week ending June 8 and only one weevil has been collected in that trap plot thus far in 1951. By this date boll weevils collected in this trap plot were as follows:

1951	1	weevil
1950	1,892	weevils
1949	1,024	"
1948	351	"
1947	902	"

Dry weather has greatly delayed emergence in 1951 as compared to previous years. The number of boll weevils removed to date in 1951 is the smallest number ever removed since the trap plot was started (1938).

During the week ending June 8 boll weevils were found in 12 of the 90 fields examined in 18 counties (excluding Florence); boll weevils were found in 10 counties: - Aiken, Barnwell, Clarendon, Colleton, Hampton, Lee, Orangeburg, Richland, Sumter and Williamsburg. Of the fields examined 13.3% were infested at the average rate of 26 weevils per acre. In the corresponding week in 1950, all of the 84 fields examined in 17 counties had boll weevils and the average rate was 1,974 per acre.

In Florence County, weevils were found in 5 of the 18 fields examined at the average rate of 20 per acre. In one field 7% of the squares were punctured and in another field 3%.

Alabama: W. A. Ruffin, Extension Entomologist, wrote on May 8 that there are enough weevils in north Alabama to cause serious damage if rainy weather should persist during the spring and summer months. If dry weather prevails in north Alabama, the boll weevil damage would not become serious until later in the season.

Conrad J. Ward found weevils in 27 of the 51 fields examined during the week ending June 9 in 10 counties in south-central Alabama, including the counties of Butler, Clarke, Conecuh, Dallas, Escambia, Lowndes, Macon, Monroe, Montgomery and Wilcox. There was an average of 200 weevils per acre in the 27 infested fields and an average of 106 per acre in the 51 fields examined. In one field in Conecuh County weevils were found at the rate of 630 per acre. Another field in that county and a field in Escambia County had weevils at the rate of 490 per acre. In Monroe County one field had weevils at the rate of 429 per acre and in Macon County a field was found that had 350 weevils per acre.

James R. Davis found weevils in 18 of the 35 fields examined in 9 counties in southeastern Alabama, including Barbour, Bullock, Coffee, Dale, Geneva, Henry, Houston, Russell, and Pike. No boll weevils were found in the 3 fields examined in Crenshaw County. There was an average of 132 weevils per acre in 18 infested fields and an average of 63 per acre in the 38 fields examined. In a field in Houston County weevils were found at the rate of 350 per acre. A field in Barbour County had 280 weevils per acre and one in Bullock County had 210 per acre.

The boll weevil infestations are spotted in southern Alabama and there is much variation in the weevil numbers between adjacent fields.

Mississippi: In the weekly cotton insect report released by the State Plant Board on June 4 Clay Lyle stated; "Boll weevils are now beginning to appear in cotton in the hill sections of Mississippi, but in much smaller numbers than at this time last year. During the past week Plant Board inspectors and federal entomologists examined 222 farms in 47 counties, finding weevils on 29 hill farms, at the average rate of 107 weevils per acre as compared to 661 weevils per acre on hill farms and 487 per acre on all infested farms on this date last year, and 349 per acre in 1949. The highest infestation reported was 700 weevils per acre on a hill farm in Holmes County. Copiah, Grenada, Hinds, Rankin, Scott and Yalobusha Counties had infestations of 100 or more to the acre.

"During the previous week 193 fields in 39 counties were examined, with weevils present on only 12 farms which averaged 67 per acre.

"No weevils have yet been reported in Delta fields by official inspectors, although about 200 fields were examined the past two weeks. At this time last year more than half the Delta fields were infested with an average of 193 weevils per acre."

During the week ending June 8 boll weevils were found in 9 of the 140 fields examined in 17 Delta counties at the rate of 117 weevils per acre as compared with 240 per acre in the infested fields at this date last year. This year the average number of weevils per acre in all fields examined was 8 as compared with 136 last year.

Tennessee: Arthus P. Morris, State Department of Agriculture, Nashville, reported that during the week ending June 1, 33 cotton fields were examined in the counties of Carroll, Chester, Decatur, Hardin, Henderson, and McNairy. Only 1 boll weevil was found in 1 field in McNairy County. Mr. Morris reported that O. O. Browder in Hardin County had found 3 boll weevils on cotton in his fields. During the week ending June 9 examinations were made in 46 fields in Fayette, Hardeman, Haywood, Madison and Shelby Counties but no weevils were found.

Arkansas: Gordon Barnes, Extension Entomologist, reported on June 4: "There have been some reports of boll weevils in cotton, but the numbers are very small. It is well known that a dry May and early June tends to hold the boll weevil in hibernation. This is very favorable to the boll weevil. The boll weevil situation will not be definitely known until cotton starts squaring."

Louisiana: Insect Pest Survey Leaflet issued by the Experiment Station on June 8 stated; "At Tallulah during the week ending May 31 there was an average of 77 boll weevils per acre and for the week ending June 7 an average of 146 per acre. At this date in 1950 there was an average of 639 boll weevils per acre; in 1949, 284 per acre; in 1948, 131; in 1947, 210; in 1946, 362; in 1945, 213; and in 1944, 90. In the Shreveport area boll weevil infestations are particularly heavy in the Hill area around Homer, Webster Parish, and the weevils have begun to move into the fields in the Red River area. J. S. Roussel reports a field of cotton near Calhoun with 800 weevils per acre."

Texas: K. P. Ewing and C. R. Parencia, Jr., Waco, reported for the week ending June 8: "A total of 13,800 plants in 32 untreated fields were inspected in McLennan and Falls Counties during the week and weevils were found at the rate of 60 per acre. In 50 treated fields weevils were found at the rate of 8 per acre. Weevils were found in 19 of the 32 untreated fields and in 9 of the 50 treated fields.

During the correspondeing week of last year weevils were found at the rate of 95 per acre in 39 untreated fields and at the rate of 15 per acre in 22 treated fields. During this week square infestation records were made in 4 treated fields and the average infestation was 1.7% puncutred squares. The infestation in 3 untreated fields averaged 16.2%.

Oklahoma: C. F. Stiles, Extension Entomologist, reported on June 9 that the first boll weevil found in the State during 1951 was taken 9 miles south of Stillwater, Payne County. The second report of boll weevils came from Bryan County in the southeastern part of the State.

THRIPS

North Carolina: "Thrips are still delaying plant development in many fields, especially in the south-central area, though some fields with earlier infestations seem to be recovering satisfactorily."

South Carolina: The report on cotton insect infestations for the week ending June 1 states: "Thrips are attacking cotton throughout the upper coastal plain and piedmont areas. The continued drought and maturing of early grasses and weeds has in many cases caused great numbers of thrips to injure nearby cotton seedlings. Where organic poisons were applied or are being applied to control these insects, cotton fields are 'greening up' and with the coming of rain will get off to a good start."

J. G. Watts, Edisto, wrote on June 4: "Some thrips injury continues in the Piedmont, but most of the cotton seems to be gradually growing out of further danger. Quite a number of farmers up there have poisoned for thrips this year. This is something new for South Carolina. Nettles and Sparks can be credited with this program. They are doing a splendid job."

L. C. Fife (June 8): "Very little thrips injury has been observed."

Alabama: Reports for the week ending June 9 stated that scattered infestations of thrips were noted in about 25 of the 89 fields examined in southern Alabama with no appreciable thrips damage in any field.

Mississippi: Clay Lyle stated June 4: "Thrips are reported generally present and doing serious damage in some cases. Young cotton should be poisoned for thrips as soon as it is up and before chopping in order to prevent any delay in the growth. Cotton beginning to square should be protected if weevils are present, but this is unnecessary on younger cotton that has already been treated for thrips, since the weevils can do no harm until squares appear." During the week ending June 8 thrips were noted in 47 of the 140 fields examined in 17 Delta counties.

Tennessee: Arthur P. Morris, State Department of Agriculture, Nashville, reported that thrips damage ranging from light to heavy was noted in 32 fields examined during the week ending June 1. One field was examined that showed no indications of damage by thrips. These fields are located in Carroll, Chester, Decatur, Hardin, Henderson and McNairy Counties. During the week ending June 9 thrips damage was noted in 25 of the 46 fields examined in 5 other counties.

Arkansas: Gordon Barnes, Extension Entomologist, June 4: "The dry weather has been favorable to thrips by holding the plants in the susceptible stage longer, and they have built up to outbreak proportions in some places. Dr. Charles Lincoln, was out this week and found that in some fields cotton had come up to a poor stand and seed are still germinating and coming up. The older plants are serving as breeding places for thrips and they are moving down on the new plants as they come up. In fields where this type of situation exists and where the new plants are needed to make a good stand of cotton, control should be applied for a knock out."

Louisiana: "Thrips continue to be the most destructive pest on cotton although most of them have left the older cotton. The younger plants are still suffering damage."

Texas: K. P. Ewing and C. R. Parencia, Jr., Waco, reported for the week ending June 8: "Early planted untreated cotton in most instances has recovered from thrips injury. A few fields continue to show injury. Most fields of untreated late planted cotton are taking some injury from these insects."

Oklahoma: C. F. Stiles reported on June 9: "Thrips are appearing in light numbers in Okfuskee, Payne, Bryan, Grady and Jefferson Counties."

CUTWORMS

Louisiana: On May 25 R. C. Gaines, Tallulah, submitted cutworms from Tensas Parish where 200 acres of cotton had been destroyed that were identified by J. G. Franclemont of the Division of Insect Identification. There were 7 specimens of the black cutworm, *Agrotis ypsilon* (Rott.) and four specimens of the granulate cutworm, *Feltia subterranea* (Fabr.).

Arkansas: Gordon Barnes, Extension Entomologist, June 4: "There have been reports of sporadic outbreaks of cutworms. It is late in the season, but outbreaks are occurring. D. M. Baught, County Agent, Ashley County, reported a 160 acre field heavily damaged by varigated cutworms."

Texas: K. P. Ewing and C. R. Parencia, Jr., Waco, reported for the week ending June 8: "Considerable poisoning was done for the control of cutworms in many late planted cotton fields during the week. Degree of control ranged from poor to excellent. The infestation was so heavy in a few fields that loss of stand resulted even though 90% of the cutworms were killed with insecticides. A few growers have had to apply 2 applications 5 to 7 days apart in order to save their stands."

BOLLWORMS

South Carolina: The report on cotton insect infestations for the week ending June 1 states: "Bollworms are damaging leaves and young squares in fields in Aiken, Allendale, Bamberg, Barnwell and Edgefield counties. These worms are being noticed early this year but records have shown them attacking cotton when weather conditions were similar in past years."

J. G. Watts, Edisto, wrote on June 4: "In Aiken, Allendale, Bamberg and Barnwell counties control has been necessary in a few cases. Both *armigera* and *virescens* are involved but I haven't seen enough of the specimens to give any idea of the relative abundance of the two species."

L. C. Fife (June 8): "Light infestations of bollworms were observed in some fields."

Mississippi: Six larvae collected on cotton in Issaquena County on May 30 were determined as the bollworm, *Heliothis armigera* by J. M. Langston, State College.

Louisiana: Bollworms have been reported from several localities, with the eggs abundant in many fields. At Tallulah, the bollworms have made their appearance on cotton 2 or 3 weeks earlier than usual. L. D. Newsom reported bollworms plentiful in the Shreveport area, especially in fields treated for thrips control. J. S. Roussel reported bollworm eggs as plentiful on cotton in Monroe area but natural enemies were abundant and destroyed the larvae as they hatched. Heavy bollworm infestations were reported in St. Landry, Pointe Coupee, Tensas and Union Parishes by the County Agents. R. G. Strong, Extension Entomologist, reported many bollworm eggs in Rapides, Natchitoches and Avoyelles Parishes.

Texas: K. P. Ewing, Waco, found insects damaging cotton on two farms in McLennan County on May 18 that proved to be the cotton boll cutworm or yellow-striped armyworm, *Prodenia ornithogalli* Guen.

PINK BOLLWORM

Texas: The Division of Pink Bollworm Control reported on June 5 that the pink bollworm infestations were lower than last year during May in Cameron, Zapata, and Willacy Counties. In 21 counties the pink bollworms are more abundant than last year. In the 10 counties where the heaviest infestations might be expected, about 2,800 fields were examined with the results as indicated in the following table:

County	Percent of Fields Infested		No. of PBW per 100,000 Cotton Blooms	
	1950	1951	1950	1951
Bee	24.7	30.0	16.77	72.92
Cameron	18.7	9.7	56.52	7.46
Hidalgo	9.9	11.1	14.95	15.04
Jim Wells	11.1	35.2	20.70	45.31
Live Oak	-0-	42.0	-0-	73.12
Nueces	70.7	76.4	508.41	1097.36
San Patricio	12.6	41.5	5.77	169.37
Starr	42.9	53.6	65.13	187.59
Willacy	4.1	90.57	---	---
Zapata	27.2	12.5	175.00	34.78

In the 14 other counties where the pink bollworm is known to occur, the results of the examinations made during May are indicated in the following table:

County	Fields Inspected	Fields Infested
Atascosa	14	2
Brooks	12	3
Calhoun	4	3
Dimmit	19	5
Duval	23	3
Goliad	12	1
Jim Hogg	9	2
Karnes	10	1
Kleberg	34	14
McMullen	3	1
Maverick	12	4
Refugio	4	1
Victoria	6	2
Webb	31	1

SPIDER MITES

South Carolina: The report on cotton insect infestations for the week ending June 1 states: "Red spiders are becoming serious in some localities. This situation has been brought about by the dry weather conditions. Counties reporting damage from these pests are Edgefield, Saluda and Orangeburg."

J. G. Watts, Elisto, wrote on June 4: "The County Agent in Edgefield reports considerable red spider damage through the Ridge Section."

Louisiana: During the week ending June 8, L. D. Newsom, Louisiana Experiment Station, reported spider mites widely distributed in some cotton fields in the Shreveport area,

COTTON APHID

North Carolina: Cotton News Letter No. 11, issued by the Extension Service on June 8: "Aphids were very abundant in southern and eastern counties last week but natural enemies and the dry weather have teamed up against them and the infestations are much reduced. Fields in the more northern areas showed a number of pests but little severe damage was noted this week."

South Carolina: The report on cotton insect infestations for the week ending June 1 states: "Aphids (lice) are found in most fields throughout the State but not in sufficient numbers to cause farmers to make special applications of poison for their control."

L. C. Fife (June 8): "Very light aphid infestations were found in all fields examined."

Alabama: Reports for the week ending June 9 stated that aphids were reported in 40 of the 89 cotton fields examined in 20 counties in southern Alabama. Damage was light in most cases, but 9 fields were reported to be heavily infested with aphids.

Tennessee: Arthur P. Morris, State Department of Agriculture, Nashville, reported that during the week ending June 1, light infestations of aphids were found in 21 of the 33 cotton fields examined in 6 counties in the southwestern part of the State. During the week ending June 9 aphids were noted in 39 of the 46 fields examined in 5 other counties. Eleven fields had medium to heavy infestations.

Mississippi: In a release on June 4 Clay Lyle stated: "Lice are present in many fields but ladybird beetles are cleaning them up in most cases." Aphids were noted in 33 of the 140 cotton fields examined in 17 Delta counties during the week ending June 8 but only 3 fields had heavy infestations.

MISCELLANEOUS INSECTS

South Carolina: F. S. Chamberlin, Quincy, Florida, wrote on June 1 that W. C. Nettles, Extension Entomologist, Clemson, had reported "cowpea weevils are being found on cotton in most of the Piedmont Counties."

The report on cotton insect infestations for the week ending June 1 states: "Other insects noted attacking cotton during the past three weeks were: cutworms, click beetles, fleahoppers, vegetable weevils, cowpea weevils, corn billbugs, flea-beetles and tarnished plant bugs. Mexican bean beetles were seen on cotton plants in Marlboro County."

Mississippi: In the examination of 140 cotton fields in 17 Delta Counties during the week ending June 3 tarnished plant bugs were noted in 17 fields, webworms in 14 fields, and other lepidopterous larvae in 26 fields.

Tennessee: Arthur P. Morris, State Department of Agriculture, Nashville, reported during the week ending June 1 flea beetles were found causing damage in 4 of the 33 cotton fields examined in 6 southwestern counties. During the week ending June 9, 46 cotton fields were examined in Fayette, Haywood, Hardeman, Madison and Shelby Counties. Flea beetles were found in 10 fields and were still present in noticeable numbers in 6 fields. Cutworms were observed in 11 counties and grasshopper nymphs were noticeable in an undetermined number of fields.

Mexico: A. J. Chapman, Brownsville, Texas, submitted lepidopterous larvae found feeding on cotton about 35 miles south of Matamoros, Tamps., by C. E. Wesley of the Division of Pink Bollworm Control on May 24, 1951. Dr. J. G. Franclemont of the Division of Insect Identification reported concerning these larvae as follows: "A species of Phalaenidae. There is nothing like this larva in the United States National Museum collections. It would be extremely helpful if an attempt were made to rear some of the Mexican species. We would be able to identify the material and the larvae could then be associated."

COTTON INSECT SITUATION IN TEXAS

K. P. Ewing reported (June 11): "Thrips continue to do damage in late planted fields in South Central, Central, North Central, Northeastern and Eastern areas of the State. Fleahoppers and aphids (plant lice) continue to be light over most areas of the State.

"Weevil populations are quite heavy in North Central, Northeaster and Eastern areas, especially in fields near hibernation quarters.

"Cutworms destroyed stands of late planted cotton in several central Texas counties where they had not been controlled.

"Pink bollworms continue to be found in bloom inspections made in the counties in the Upper Coastal areas of Texas and in some of the counties just north of this area.

"Southwest - LaSalle, Starr, Brooks, Jim Hogg, Duval, Maverick, Dimmitt, Zavala, Live Oak, McMullen, Webb, and Frio Counties show light scattered infestations of fleahoppers, bollworms, and boll weevils with only an occasional field needing control for these insects.

"Coastal Bend - In Nueces, Aransas, Refugio, Kleberg, San Patricio and Jim Wells Counties weevils, bollworms and fleahoppers are still scarce.

"Upper Coastal - In Victoria, Wharton, Harris, Fort Bend, Jackson, Calhoun, and Matagorda Counties boll weevil, fleahopper and bollworm infestations are light.

"South-Central - Light to medium infestations of thrips were found in most untreated late planted fields inspected in Austin, Fayette, Lee, Gonzales, Caldwell, Bastrop, Washington, and Travis Counties. Weevils were found in untreated fields particularly in those close to hibernation quarters.

"West Central - Two of eight fields inspected in Uvalde County showed boll weevil punctured squares near the 25 percent infestation level. Fleahopper infestations were light over the area.

"Central - Thrips are causing injury in unpoisoned late planted fields and weevils are found in fairly large numbers in untreated fields near suitable hibernation quarters. Thirty-two unpoisoned fields inspected in McLennan County showed an average of 60 weevils per acre. Six fields in Falls County showed an average of 30 per acre and 3 fields in Navarro County an average of 495 per acre.

"North Central - In Collin, Fannin, Denton, Delta, Hunt, Kaufman, Rockwall, Grayson, Lamar and Ellis Counties light to medium infestations of thrips occur in treated fields and medium to heavy infestations in untreated fields. Weevils continue to be found in large numbers particularly in river and creek bottom areas and close to suitable hibernation quarters.

"Northeast - Inspections were made in 137 fields in Red River, Van Zandt, Smith, Panola, Bowie, Rains and Hopkins Counties. Thrip infestations were light in most treated fields and medium to heavy in untreated fields. Boll weevil populations were high in many fields in these counties. The average number of weevils per acre was as follows: Red River, 105; Van Zandt, 210; Smith, 60; Panola, 150; Bowie, 360; Rains, 135; and Hopkins, 210.

"East Texas - Eighty-three fields were inspected in Nacogdoches, Houston, Henderson, Anderson, Cherokee, Shelby and Walker Counties. The inspections showed medium to heavy infestations of thrips and boll weevils in most fields. . . . . Some of the fields which are squaring are showing punctured squares near the 25 percent infestation level."

COTTON INSECTS IN THE LOWER RIO GRANDE VALLEY OF TEXAS

Excerpts from Cotton Insect Survey - Report No. 12 issued at San Benito on May 31 by A. N. White:

"The cotton in general looks very good in the three Valley counties. There are several major cotton insects which are present but none are present in sufficient numbers to cause general alarm at this time.

"Due to beneficial insects and the hard driving rain which occurred during the week, aphids have been sharply reduced in most Valley fields. There are few fields over the area that need controls at this time for aphids alone. A few fields in Willacy County are still heavily infested.

"Fleahoppers have increased and damaging infestations were reported this week in scattered fields generally in the dry land areas of Cameron and Willacy Counties where they have had good rains earlier this spring.

"The bollworm infestation continues to be light with even lighter populations this week than last. . . . . . Thrips are staging a comeback in the San Benito-Rio Hondo area and they are damaging some rather old cotton which is in the blooming stage, and beyond the point where thrips usually cause serious damage. There are some fields in this area with averages of 25 to 40 thrips on tender terminal leaves.

"Careless weed webworms are rather general in northern and western Hidalgo County, but, except for a few cases, they are not present in damaging numbers at this time.

"Red spiders were reported in damaging numbers in a few fields in southern Cameron County."

Excerpts from Cotton Insect Survey - Report No. 13, from the Lower Rio Grande Valley issued at San Benito on June 7 by A. N. White:

"Insect activity in general has picked up some this week. There are several fields receiving damage from the different cotton insects. Compared to other cotton seasons, however, we are remarkably free of damaging insects at this time and the cotton prospects at this stage look very good throughout the area.

"Bollworms have increased some this week, particularly in Willacy County. Over the Valley as a whole, however, there are few fields that are infested enough to warrant controls.

"Thrips continue to increase and damage some older cotton.

"Some fields are receiving damage from the Serpentine Leaf Miner. These seem to be more abundant near Primera, Santa Rosa, La Feria, and Edinburg. They are present in scattered fields throughout the area but generally not abundant enough to warrant control. These are the same insects which have attacked peppers so severely for the past few years. Their damage is characterized by transparent tunnels in the leaves, caused by the tiny larva feeding between the leaf surfaces. These have damaged a few fields already enough to cause some defoliation and shedding of squares and bolls.

"Fleahoppers are damaging some fields in central and northern Hidalgo County. The overall infestation, however, is still light.

"Red spiders are damaging several fields in Cameron County along the river near Brownsville, and a few fields in southern Hidalgo County.

"The boll weevil infestation is still very light. A few are showing up in the more favorable locations but there are no fields which need boll weevil control at this time.

"Due largely to natural enemies, the aphid population is lower than it has been in several weeks."

IRRIGATED COTTON OF THE SOUTHWEST

Arizona: W. A. Stevenson, Tucson, reported on June 1 concerning conditions in Maricopa County as follows: "As a whole injurious insects continued low in most of the planted cotton fields, however, one advanced field in the Gilbert area averaged 10.5 *Lygus* spp. and 0.5 stink bugs per 100 net strokes. Injurious insect populations (mainly *Lygus* spp.) continued to build up in most of the stub cotton fields throughout the Valley. Sweepings on stub cotton ranged from 0.0 to 12.0 per 100 net strokes and consisted mainly of *Lygus* spp."

Graham County: "Some dusting for *thrips*."

Pinal and Pima Counties: "Some dusting for *thrips* and beet armyworms. Some poisoning for red harvester ants in Pima County."

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